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Linking Organizational Strategy to E-Commerce

By

Thomas Tribunella, PhD, CPA
Director of Accounting Programs
School of Management
State University of New York Institute of Technology

“Strategic management is not a box of tricks or a bundle of techniques. It is analytical thinking and commitment of resources to action.”

Peter Drucker

Abstract

The honeymoon is over. We have learned through boom and bust that E-Commerce is not a magic formula for instant wealth. Like all forms of business, Internet firms must adhere to the discipline of profit generation or face extinction. Most individuals accept the premise that the future of business will be greatly influenced by the World Wide Web. This leads us to an interesting question: How does an organization embrace e-commerce effectively? Part of the answer is straightforward: For e-commerce activities to add value, they must facilitate organizational strategy. An organization should not finance a Web presence before it has a clear understanding of how the site will facilitate its business strategy. This paper will explore the relationship between strategic planning and e-commerce development activities. The goal is to tie together new concepts in e-commerce with the established paradigm of strategy and provide a stepping-stone for future research.

Keywords

E-commerce, E-business, Strategic Planning, Strategy, Management

Introduction and Problem Statement

The plunge in technology stocks may indicate the end of the gold rush stage of Internet commerce. Investors dreaming of riding a technology wave to wealthy futures received a dose of reality. Nasdaq suffered the largest one-year loss in its 30-year history, 39.3% in 2000 (Tymkiw, 2000). Dot Com companies have cut over 22,267 employees from December 1999 to October 2000 (Goldman, 2000). The following statistics were compiled by Webmergers.com and reported on CBS Market Watch (Corry, 2001):

Exhibit 1: Dot Com Shutdowns of Substantial Net Companies by Month

Month	Year	Shutdowns
May	2001	54
April	2001	58
March	2001	44
February	2001	59
January	2001	54
December	2000	49
November	2000	49
October	2000	36
September	2000	22
August	2000	10
July	2000	20
June	2000	17
May	2000	13
April	2000	1
March	2000	2
February	2000	2
January	2000	1
Unknown	Unknown	2
Total		493

Source: Webmergers.com

The data in Exhibit 1 clearly indicates there is no slowdown in the number of Web companies that are going out of business. Exhibit 2 displays the number and percent of shutdowns by business sector.

Exhibit 2: Shutdowns by Sector – January 2000 through May 2001

Sector	Number	Percent
Access	46	9%
Content	135	27%
E-commerce	232	47%
Infrastructure	47	10%
Professional Services	33	7%
Totals	493	100%

Source: Webmergers.com

Exhibit 3 shows the number and percent of shutdowns by audience. The shutdowns reported in Exhibits 1 through 3 are major Web companies that received significant financing (Webmergers.com, 2001).

Exhibit 3: Shutdowns by Audience – January 2000 through May 2001

Audience	Number	Percent
Business	137	28%
Consumer	307	62%
General	49	10%
Totals	493	100%

Source: Webmergers.com

The data reported above indicates that an Internet presence is no guarantee of success. On the other hand, the Internet cannot be ignored and opportunities still exist in some segments of the marketplace. The following data was reported in Verizon research that studied US companies with 50 or fewer employees (Mannes, 2000):

- Only 27% have a Web site
- 48% with Web sites say their Internet presences has met or exceeded their expectations
- 55% reported their Web site has paid for itself with increased business
- 40% claim their site is earning recognizable profits
- Only 20% are disappointed with their Web site

The expansion of Internet usage is impressive. According to a spring, 2000 study of US Internet users by Jupiter Research (Deitel, Deitel & Steinbuhler, 2001) the rapid growth of Internet users will continue:

- By 2005, Internet users between the ages 19 and 49 are expected to number 84 million, up from 54.5 million in 1999
- By 2005, Internet users over the age of 50 are expected to be 49.6 million, up from 17.3 million in 1996

- By 2005, households connected to the Internet are expected to be 80.2 million, up from 45.4 million in 1999
- By 2002, teenagers are expected to spend \$1.2 billion online, up from \$129 million in 1999

In spite of the rapid growth of Internet use, the piecemeal me-too e-commerce approach doesn't work. A systematic approach with emphasis on strategy must be used. Market realities demand an effective E-commerce business strategy as a response to customer expectations and competitive pressures (Czuchry, 2001). Firms that rush to enter the Internet's highly competitive environment without a well thought-out strategy and business model face a high probability of failure (Macaluso, 2000). For example, dotcomfailures.com, a Web business that keeps track of e-business failures, failed due to a poorly thought-out strategy (Deitel, Deitel & Steinbuhler, 2001).

In a study of 80 e-businesses conducted by McKinsey and Company, only the first 10% of entrants into a new market gained an advantage through speed. According to McKinsey research, speed makes sense when the following three conditions exist (Bates, Rizvi, Tewari, & Vardhan, 2001):

- A first to market company can create barriers to entry
- There is a large market potential
- The hazards and risks related to speed are manageable

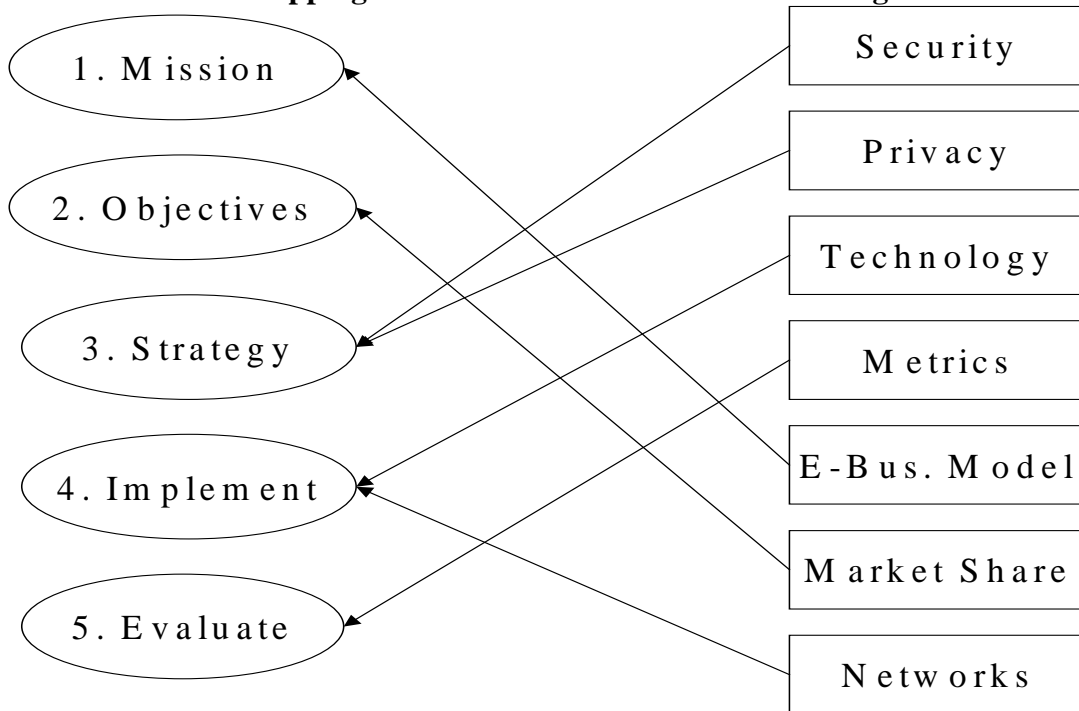
Marty Bates an analyst for McKinsey and Company wrote (Regan, 2001): "For the rest, speed provides no competitive advantage and often results in wasted resources, missed opportunities, and flawed strategies." This paper advocates a slow and steady approach to e-commerce and builds a conceptual model to help managers link e-commerce to strategy.

Goals and Methodology

The major goal of this paper is to create a conceptual framework that will assist managers in organizing e-commerce issues within the strategic planning process. In the rapidly changing environment of e-commerce, the stability of a framework is needed. A systematic approach to e-commerce planning will lower the expense of ad hoc trial and error. If the goal of management is to direct an organization's resources with the aim of achieving organizational goals in an efficient and effective manner (Griffin, 1999), (Murphy, 2000); then a poorly designed prototype business strategy will not meet the criteria of good management.

This paper will briefly explain the stages in the strategic planning process, review e-commerce business concerns, and address the major considerations that must be understood by management while they construct an e-commerce strategic plan. A list of e-commerce issues will be mapped into the strategic planning process. The end result will be a taxonomy of major e-commerce issues categorized by strategic area. Exhibit 4 displays how E-commerce issues will be mapped into the strategic planning process:

Exhibit 4: Mapping E-commerce Issues Into the 5 Strategic Tasks

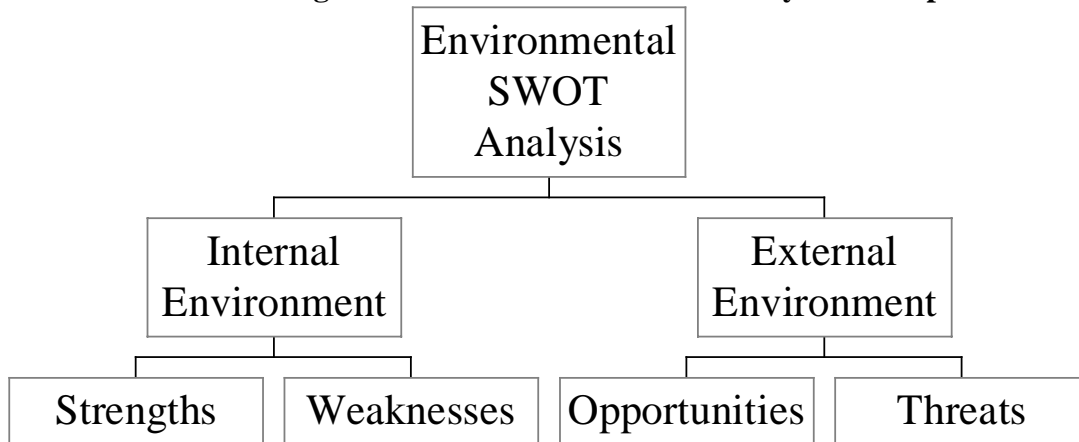


A Summary of the Strategic Planning Process

Strategy is defined as the continuous, iterative planning process, which focuses on keeping an organization competitive in its environment (Miller & Dess, 1997), (Certo & Peter, 1988). The strategic planning process includes the following 5 tasks (Thompson & Strickland, 2001):

Strategic Task 1 - Develop a Vision and Mission: The first step is to analyze the internal and external environment. An analysis of the internal organizational environment allows managers to gain insight concerning strength and weaknesses. The goal is to know the capabilities of the organization. The combination of knowing the internal expertise of the company and focusing on an appropriate market can translate into increased profits (Weintraub, Haddad, Edwards, & Smith, 2001). An analysis of the external environment will produce knowledge of the industry and competition as well as information about the legal, economic, social, technological, and political environment. Here we search for threats from the environment and opportunities in the market place. SWOT analysis (strength, weakness, opportunities, and threats) should be completed at this stage. Exhibit 5 displays an organizational chart of SWOT analysis concepts:

Exhibit 5: Organizational Chart of SWOT Analysis Concepts

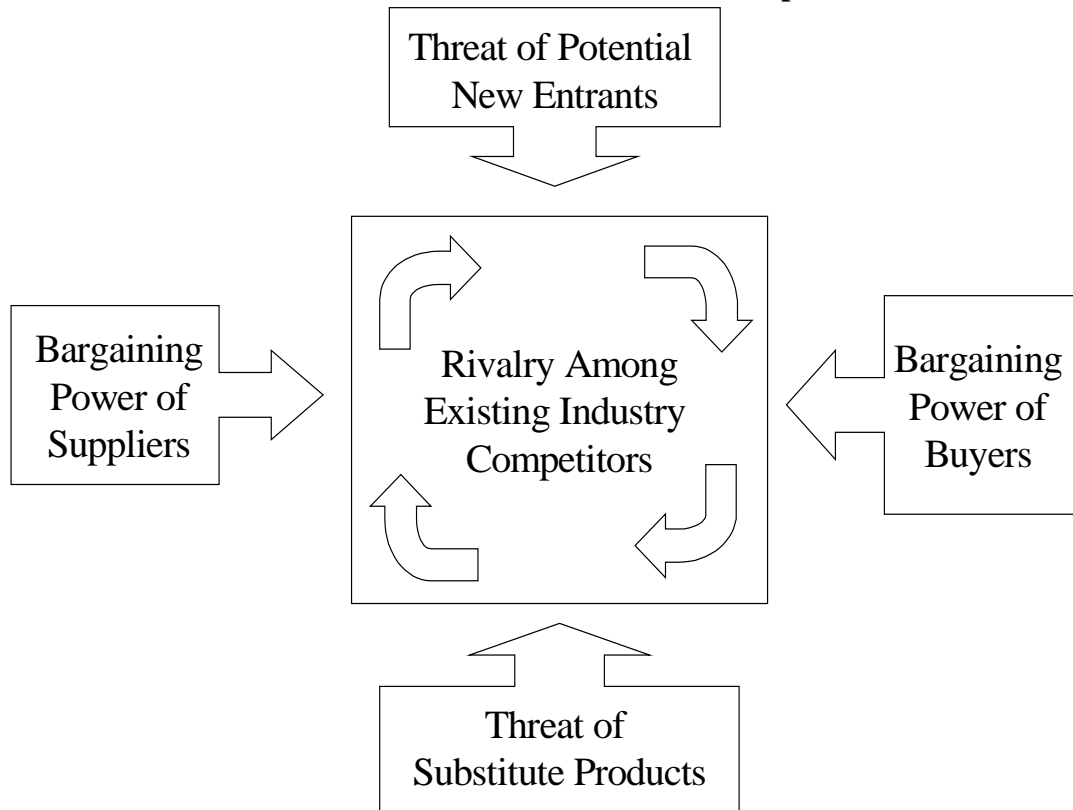


A component of an environmental analysis is a diagnosis of the industry and the competitive environment. Michael Porter of the Harvard Business School has convincingly demonstrated that competition in an industry can be subdivided into five competitive forces (Porter, 1979). His model is displayed in Exhibit 6.

An environmental analysis will help management determine the strategic vision and create a mission statement. Determining the customer market and brand image is part of the process. The goal here is to know where you are going before you begin the journey. The mission statement should describe the purpose for which an organization exists. At this stage the overall macro-level business model will be designed and the competitive advantage that flows from that model is identified. The task at this stage is to determine the major long-term focus of the organization. Below are examples of commonly used organizational directions that should be delineated with the vision and mission (Thompson and Strickland, 2001), (Plant, 2000):

- Technological Leadership Strategy
- Brand Recognition Strategy
- Superior Service Strategy
- Market Leadership Strategy
- Superior Quality Strategy
- Best Cost for Relative Product Quality Strategy
- Lowest Cost Strategy

Exhibit 6: Porter's Five Forces Model of Competition



Strategic Task 2 - Set the Long-term Organizational Objectives: Objectives convert managerial statements made in the vision and mission into specific performance targets. Results and outcomes are measured to track an organization's progress toward its mission. Financial as well as strategic measures should be formulated at this stage. Benchmarking best practices with industry financial ratios is helpful for comparing the organization's performance with its competition.

Strategic Task 3 - Formulate a Detailed Strategy: Chart a specific course to achieve the long-term measurable objectives. Start with a detailed marketing plan and sales objectives. At this stage, variables such as product mix, compensation cost, and human resources are planned. The detailed strategy is how the targeted results will be accomplished. Objectives are the ends and strategy is the means of achieving them. Determine the chain of value added activities that will ensure the organization delivers quality products and services to customers.

Moreover, this is the stage where the management creates the detailed business model. A company's business model deals with revenue, costs, and profits. It is the economic engine that demonstrates the viability of the mission. A profitable business model will pass three critical tests (Thompson and Strickland, 2001):

- Goodness of Fit: A good business model will take advantage of expanding market opportunities while employing the organization's best internal strengths

- **Competitive Advantage:** A good business model will give a company an edge over its competitors
- **Performance:** A good business model will boost company profits and increase market share through cost efficiencies and revenue growth

At this stage, a multi-year budget and projected financial statements are critical sources of information for planning purposes. Various options should be crafted based on what-if scenarios. Management should brainstorm to produce a probable range of outcomes and perform sensitivity analysis on budgets and financial statements. Strategic planning is a combination of art and science where the process is continuous and ongoing.

Accordingly, the five strategic tasks are not discrete events. They interact with each other and are simultaneously affected by the organization and its environment.

Strategic Task 4 - Strategic Choice and Implementation: Management must choose the options they feel have the highest probability of success. Once the strategic choices are made, the organization puts the detailed plan into action. To do this correctly the plan must be communicated to every employee and management must fully endorse it. Furthermore, every individual must be compensated and motivated to achieve mission related objectives. Management needs to decide what must be done to put the strategy in place.

Strategic Task 5 - Evaluate Performance and Initiate Corrective Adjustments: Monitor the environment, measure progress toward goals, and modify the strategy to adapt to competitive forces. Management must be constantly vigilant. Changes in technology, as well as changes in the environment, will require the organization to adapt on a regular basis. In addition, missed targets may trigger the need for management to modify the strategy. Therefore, the business strategy must be flexible. Variance analysis combined with feedback and adjustments are a necessity at this stage.

Strategic planning is complex, laborious, and time consuming. Accordingly, an organization must allocate resources and time to the strategic planning process. It is worth the effort since a good game plan will hold an organization together as it pursues its mission. Now that the strategic planning process has been summarized, e-commerce will be defined and reviewed.

E-Commerce Definition and Literature Review

E-Commerce is defined as the exchange of money, information, services, and products between economic entities over the Internet, networks, and other digital technologies (Laudon, 1999). E-Commerce will allow an organization to expand into new markets without building expensive facilities. It allows customers to receive information and order products 24 hours a day, 7 days a week (24/7). Operating 24/7 is cost prohibitive for brick and mortar business but relatively inexpensive on the Internet. In short, the constraints of time and space are reduced on the Internet.

Pursuing Internet-based business is not without substantial challenges. A fully functional Web site is expensive to build and maintain. In addition, a Web site can get lost in a sea

of other Web sites since Internet real estate is not limited by physical constraints. As a result, a Web site must be marketed. Therefore, a strategy for the site, with clear measurable goals, must be established before resources are allocated to the project.

Whole books have been written about e-commerce strategy (Plant, 2000). However, a discussion of how specific e-commerce issues can be mapped into the strategic planning process is conspicuously absent from the literature. This paper will explore a method of how to link e-commerce issues with strategic planning. After a brief literature review, a compilation of major e-commerce issues were identified (Deitel, Deitel & Steinbuhler, 2001), (Korac-Kakabadse, Kouzmin & Korac-Kakabadse, 2000), (Flaatten, McCubbrey, O’Riordan & Burgess, 1992), (O’Brien, 2001), (Sherman, 2001). Exhibit 7 is a table that contains 80 major e-commerce issues:

Exhibit 7: Table of Major E-commerce Issues

Accessibility	Wireless Issues
Auditing and Log Files	System Maintenance
Budgeting	Financial Statements
Communications	Internet Taxation
Critical Success Factors	Industry Standards
Database Issues and Logical Design	Internet Economy
E-business Models	E-marketing
Employee Training	Trademarks
E-products and Services	International Web Standards
Ethical Considerations and Values	Supply Chain Management
Financial Analysis of Systems	Technology Changes
Forecasts and Projections	Measurable Objectives
Hardware and Physical Design	Copyrights of Web Content
Hardware and Software Upgrades	Total Quality Management
Intellectual Capital	Branding
Internet Protocols	Client Configuration
Legal Issues	Detailed Business Model
Accounting Information Systems	Management Information Systems
Market Share Goals	Benchmarking Best Practices
Network Topology and Design	Globalization
Online Industry Competitive Analysis	E-customers and Market Niche
Online Transactions	Cyber-crime
Organizational Change	Web Metrics
Privacy	Online Communities
Programming	Domain Names
Security	Patents and the Business Process
Strategic Vision	Mission Statement
System Operation	Site Stability
Value Chain Analysis	Electronic Data Interchange
Variance Analysis	Feedback and Control
Web Site Design Contracts	Online Contracts and Payments

Web Site Design	Affiliate Programs
Web Site Implementation	Network Implementation
Web Site Stability	SWOT Analysis
Legacy Systems	Data Mining
Relational Database	Decision Support Systems
Government Regulation	Enterprise Resource Systems
Activity Based Costing	Wide Area Networks
Future Internet Trends	Back Office Issues

The above table (Exhibit 7) is not intended to contain a complete list of e-commerce issues. The table's contents will be used to demonstrate how e-commerce issues can be categorized by strategic planning area. Management should not build an e-commerce application before it has a clear understanding of how the application will fit into its business strategy. For e-commerce investments to be profitable they must facilitate organization strategy. Accordingly, this study can add valuable information to the literature.

Making the Link Between Strategy and E-Commerce

Before an organization dives into the world of Internet business, a clearly planned e-commerce implementation strategy should be thought-out. Moreover, strategy should precede e-commerce investments. Below is a list of e-business issues organized under the five strategic management tasks. The list is not intended to be comprehensive. It is designed to help the reader understand how to proceed with business Web site planning while adhering to the strategic methodology. Reviewing the strategic tasks listed below will be helpful in linking management's business strategy to an e-commerce implementation:

E-commerce Strategic Task 1 - Develop a Vision and Mission: At this stage, only the most macro e-commerce issues are considered. Philosophical issues as well as the external and internal environments are investigated. The vision and mission will probably not change for an existing company that is expanding into e-business, but a new SWOT should be completed. A SWOT analysis of the e-business environment can disclose unique opportunities and threats. For example, currently the music and movie industries are threatened by MP3 technology. MP3 allows large audio and video files to be compressed and downloaded quickly. Therefore, the traditional distribution channels for movie and music compact disks are being disrupted (Mann, 2001). The following is a list of e-commerce issues taken from Exhibit 7 and mapped into strategic task one:

- Strategic Vision
- Mission Statement
- E-business Models
- Online Industry Competitive Analysis
- E-products and Services
- Globalization
- E-customers and Market Niche
- SWOT Analysis
- Internet Economy

- Ethical Considerations and Values
- Total Quality Management
- Branding
- Trademarks

E-commerce Strategic Task 2 - Set the Long-term Organizational Objectives: Here we consider how to define and measure progress. Choosing which metrics to monitor and track over time is an arduous task (Collins, Rossetti, & Watson, 2000). Managers should investigate e-industry standards for help in this area. If the organization has traditional customer outlets as well as an Internet outlet, managers should consider the interaction effect of Web-based sales on the physical locations when computing measurable objectives. The following is a list of e-commerce issues taken from Exhibit 7 and mapped into strategic task two:

- Financial Analysis of Information Systems
- Market Share Goals
- Critical Success Factors
- Industry Standards
- Benchmarking Best Practices
- Forecasts and Projections
- Measurable Objectives

E-commerce Strategic Task 3 - Formulate a Detailed Strategy: This task will include a large number of e-commerce issues. Managers must be well trained in e-business methods before they begin to administer a major strategic Web based initiative. The interface between the Web and the database is important. An elaborate front end is no substitute for a properly designed database management system. Data is a valuable resource when it can be queried to produce information that supports management decisions. The following is a list of e-commerce issues taken from Exhibit 7 and mapped into strategic task three:

- Web Site Design
- Hardware and Physical Design
- Legal Issues
- Value Chain Analysis
- Government Regulation
- Enterprise Resource Planning
- Wide Area Networks
- Back Office Issues
- Security
- Privacy
- Network Topology and Design
- Communications
- Accessibility
- Internet Protocols
- Database and Logical Design
- E-marketing

- Affiliate Programs
- Domain Names
- Patents and the Business Process
- Online Communities
- Internet Taxation
- Wireless Issues
- International Web Standards
- Organizational Change
- Supply Chain Management
- Detailed Business Module
- Electronic Data Interchange
- Online Contracts and Payments
- Web Site Design Contracts
- Intellectual Capital
- Budgeting
- Legacy Systems
- Relational Database
- Decision Support Systems
- Accounting Information Systems
- Management Information Systems

E-commerce Strategic Task 4 - Strategic Choice and Implementation: This stage is where the logic of theory meets the chaos of reality. Even the best conceptual strategy is worthless without the competent hands-on execution of an operational strategy (Plant, 2000). Employees with e-business experience will be extremely valuable during an e-commerce implementation. Do not underestimate the value of good network engineers, database administrators, and application programmers. The delivery of an Internet-based business system elevates security to an extremely important level. Only experienced staff will stay one step ahead of hackers and others who can disrupt the stability of a Web-based business.

Employee training is critical. Without proper training, a Web-based business system will not be utilized to its full capabilities. However, wide spread adoption of a properly designed and installed system can yield substantial advantages. For example, Intuitive Surgical Inc. is a maker of surgical devices that require complex product documentation. The implementation of a Web-based data collection system cut 20% (3 days) and substantial cost off its product delivery time (Roberts, 2000). Accordingly, an E-business should not rest after a successful implementation. A Web site must be updated frequently to keep it fresh and current. The following is a list of e-commerce issues taken from Exhibit 7 and mapped into strategic task four:

- Online Transactions
- Cyber-crime
- Web Content Copyrights
- Client Configuration
- Programming

- Web Site Implementation
- Network Implementation
- System Operation
- Site Stability
- Employee Training
- Activity Based Costing

E-commerce Strategic Task 5 - Evaluate Performance and Initiate Corrective Adjustments: Management must follow through on its plans by tracking progress toward strategic objectives. If measurable objectives are not met, changes should be made. A strategy must be flexible enough to accommodate adjustments that will put the organization back on course toward its mission. The following is a list of e-commerce issues taken from Exhibit 7 and mapped into strategic task five:

- Technology Changes
- Web Metrics
- Variance Analysis
- Hardware and Software Upgrades
- Auditing and Log Files
- Feedback and Control
- System Maintenance
- Financial Statements
- Data Mining
- Future Internet Trends

Classifying e-business issues into strategic categories is not an attempt to ignore the interaction effect between issues and categories. The purpose of this exercise is to help managers think about e-commerce issues in a systematic and rational manner. Managers need to remember that an Internet presence must be completely consistent with the organization's business strategy. Bricks and clicks should work together to create a better customer experience and add value to the organization.

Summary and Conclusion

The continuing E-commerce shake out indicates there is a problem in the Internet sector. It is clear that a Web page is no guarantee of a successful business venture. A Web presence is not separate from an organization; it is an integral part of the organization. E-commerce is an application of technology to a business model (Edwards, 1998). In other words, Internet business applications are tools that are employed to achieve strategic goals.

Web-based business applications are expensive and will require training, equipment, and human resources to implement and maintain. If your Web site it is not planned, financed, and monitored properly it will become a liability instead of being an asset. It should facilitate the organization's long-term mission and strategy. When planning an E-business presence, management should follow the strategic planning process to reduce risk and maintain focus. A speedy Internet implementation is not an acceptable

substitution for strategic planning. A well thought-out E-business strategy will eliminate errors and increase the probability of success.

Author Biography and Contact Information

Dr. Tribunella is an Associate Professor and the Director of Accounting Programs at the State University of New York (SUNY) Institute of Technology. His research interests are in the areas of accounting and information systems. Professor Tribunella earned a BBA from Niagara University, a MBA from the Rochester Institute of Technology, and a PhD from the State University of New York at Albany. He is also a Certified Public Accountant in New York State.

Dr. Thomas Tribunella can be contacted at:
School of Management
1261 Donovan Hall
SUNY Institute of Technology
Utica, New York 13504-3050

Voice: 315.792.7126
Fax: 315.792.7138
E-mail: ftjt@sunyit.edu
Internet: www.acc.sunyit.edu

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